

AMENDMENTS TO THE CLAIMS:

1. (currently amended) A method for producing hydroxylammonium salts by reacting ~~nitrous oxide~~ nitrogen monoxide (NO) with a molar hydrogen surplus in a reaction vessel in an aqueous medium of strong mineral acids in the presence of a noble metal catalyst suspended on a carbon-based support at excess pressure up to 10 bar and temperatures up to 80°C, the hydroxylammonium salt being constantly removed from the reaction vessel, said reaction vessel being a stirred reactor with an agitator shaft and agitator blades attached to the agitator shaft via a hub and bearing surface or support, characterized in that:

a gas inlet and distribution system is provided in a lower part of the stirred reactor,

a disk agitator is placed immediately above the gas inlet and distribution system,

the disk agitator comprising the hub ~~[[with]]~~ said hub comprising the bearing surface or support with angled, concave and tilted agitator blades that rotate angled and concave sides in a direction of motion, and

a two-blade blade agitator is provided on the agitator shaft in an upper part of the stirred reactor, individual leaves of the blade agitator being offset like lamellas at an angle of 0 to 30°C to a blade axis so that they constantly wet a reactor cap when rotating.

2. (original) The method according to claim 1 wherein sulfuric acid at a 4 to 5-normal concentration is used as the strong mineral acid and the product is hydroxylammonium sulfate.

3. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein hydrogen and NO are used at a molar ratio of 1.9 to 2.0 : 1.0.

4. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein the suspended catalyst (including its support) is used in a liquid suspension at 7 to 50 g/l and a mean diameter of 30 to 80 pm.

5. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein platinum is used as a noble metal catalyst at a concentration of 0.1 to 0.5 percent by weight in relation to its carbon support.

6. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein gases escape from an annular gas inlet and distribution system with an average gas bubble diameter of 5 mm to 6 mm and a gas speed of 7 to 30 m/sec.

7. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein 6 concave and tilted agitator blades are attached to the rotating hub of the disk agitator.

8. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein wall baffles are arranged in the stirred reactor.

9. (previously presented) The method for producing according to claim 1 wherein the two-blade agitator in the top portion of the stirred reactor is placed at an angle of incidence of 45° to 90° in relation to a liquid level in the reactor, wherein the blade agitator consists of offset individual lamella-like leaves, and wherein the blade agitator diameter is 0.3 to 0.4 relative to the reactor diameter.

10. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein a blade height of the individual leaves of the blade agitator is 0.2 to 0.5 relative to a diameter of the blade agitator.

11. (previously presented) The method for producing hydroxylammonium salts according to claim 1 wherein the disk agitator in the bottom portion of the reactor is operated at a peripheral speed of 5 to 15 m/sec.